



Vineyard Traffic Calming Process

8/10/2017

Section 1 – Introduction

Numerous traffic studies show that people in Utah drive above the posted speed limit. Across the United States this trend appears to be on the rise. In some regards it may be directly attributed to our fast paced lifestyles and the need to be in two places at the same time. However, when this trend spreads to local residential streets, it compromises our sense of neighborhood by creating noise, pollution and unsafe roadway environments.

Vineyard can help neighborhoods devise creative and workable solutions to address concerns about localized traffic issues and ensure and preserve our safe and peaceful streets. Vineyard is responsible for maintaining public roadways and thoroughfares, which are all paid for using general tax dollars and belong to the taxpayers. The public not only owns, but has a right to utilize the common roadways in Vineyard. However, the Vineyard Council can implement traffic calming measures to assure that public use of the public roadways is done in a reasonable and safe manner.

The Definition of Traffic Calming

Traffic calming is more than just slowing down vehicles. It is the combination of physical and design elements that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street use.

What Can Traffic Calming do for Residents of Vineyard?

Speeding and other unsafe driving practices on residential roadways have become an increasing concern to Vineyard residents as well as government agencies charged with ensuring traffic safety and neighborhood livability.

Our roadways are not just for cars. In neighborhoods that lack sidewalks, the roadways are used for other activities such as walking, running, and bicycling. Traffic calming measures encourage automobile drivers to operate with consideration for the safety of other individuals using the roadway. Traffic calming measures can reduce excessive speed, noise, and numerous other impacts, which in turn improve the quality of the neighborhood. Some communities have observed secondary benefits from safe attractive streets, including community interaction through social activities, and promoting safety through increased usage of alternative transportation modes (e.g. walking, running, and bicycling).

Application of Traffic Calming Devices

Traffic calming can help reduce some of the effects of undesirable motor vehicle traffic on neighborhood streets. In order to achieve these outcomes, it is important that the appropriate traffic calming measures be implemented for the identified problem. It is also important that this occur on the correct classification of street. The hierarchical classification of streets includes arterials, major collectors, minor collectors, and local streets. See Figure 1-1 for Vineyard Roadway Map.

Traffic calming measures available for use on arterials and major collectors include roundabouts, center median islands and geometric redesign of the roadway. These measures are utilized to mitigate traffic speeds while maintaining traffic flow & volume, and maintaining the intended purposes of these types of roads to handle larger volumes of traffic. Similarly, traffic calming devices on minor collectors are cautiously implemented. A wider variety of traffic calming methods is available for implementation on lower volume roads and streets, including local streets.

Figure 1-1 (Page 2) identifies the arterials, collectors and local streets in Vineyard.



Figure 1-1

Section 2 – Traffic Calming Measures

This section provides an overview of common traffic calming measures. Traffic calming is based on engineering principles, but the application is not always routine or straight forward. What works in one neighborhood might not work in another.

When indicated by the policy stated in Section 4 of this document, if a study is warranted, the city engineer conducts a traffic study intended to gather data and metrics related to the traffic flow on the subject street(s). This data helps determine whether a problem exists and to what extent by comparing, among other data, average speeds, traffic count and cycles of traffic flow during the day. This data also informs the engineer about possible traffic calming measures that may be warranted.

Options for traffic calming are described in the pages that follow. Neighborhood feedback is sought in considering options as described in the process set forth in the policy in Section 4. While citizen feedback is a critical to assist the city council in identifying the best solutions, it is ultimately a decision that is made by the council in collaboration with the city engineer.

It should be noted that every street in the city may have traffic violations at some point. If there are periodic violations, increased enforcement may be adequate to resolve the problem. Before any traffic calming measure will be considered a reasonable short-term increase in police enforcement should be carried out to see if the problem can be resolved. Police enforcement can be performed by the use of patrol officers monitoring traffic speeds, or the use of speed monitoring signs.

If traffic violations involve a large percentage of vehicles, there may be some roadway design issues that need to be addressed. The procedures from this traffic calming implementation program will help identify those problems. Each neighborhood is unique and there is no single solution to fit all traffic calming problems, but with support, sustainable and safe traffic calming solutions can be developed for the entire community. Table 2-1 (Page 4) lists the different types of traffic calming devices and the pros and cons associated with each. Visual examples of each solution as well as more detailed information involving implementation is found in the appendix.

General Objectives of Traffic Calming Measures

- To improve safety for all users of the streets
- To recognize the right of the public to use the street
- To promote safe and pleasant conditions for motorists, bicyclists, pedestrians, and residents by reducing vehicular speeds
- To maintain the environment and livability of neighboring streets

Table 2-1 – Types of Traffic Calming Devices

Traffic Calming Measure	Pros	Cons
Rumble Strips <i>Approx. cost: \$2.50 per linear foot</i>	<ul style="list-style-type: none"> Slows vehicle traffic Effective alarm for motorists leaving the roadway Increases pedestrian safety 	<ul style="list-style-type: none"> Noise pollution is intrusive in neighborhoods Increases roadway maintenance cost
Striping <i>Approx. cost: \$5.50 per linear foot</i>	<ul style="list-style-type: none"> Minimal emergency response problems Gives the appearance of space restriction resulting in reduction of speed Less Expensive 	<ul style="list-style-type: none"> Speed reduction is optional Only effective on wider local roads Can make local road look like a minor collector road
Curb Wall <i>Approx. cost: \$60 per linear foot</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles when not designed correctly Limited applicability
Center Island <i>Approx. cost: \$ 195 per linear foot</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles when not designed correctly
Electronic Speed Monitors <i>Approx. cost: \$3,500</i>	<ul style="list-style-type: none"> Slows vehicle traffic Efficient use of police time Cost effective 	<ul style="list-style-type: none"> Effectiveness may decrease with time Speed reduction is optional
Speed Table / Speed Humps or Bumps <i>Approx. cost: \$12,000 / \$5,500 each</i>	<ul style="list-style-type: none"> Reduces speed No parking removal No bicycle restrictions May facilitate pedestrian crossings 	<ul style="list-style-type: none"> Excessive acceleration and deceleration Air and noise pollution Slows emergency vehicles Gradual ramping may not be sufficient as a speed deterrent
Island Diverter <i>Approx. cost: \$ 5,500 each</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles Provides pedestrians with refuge when crossing 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles when not designed correctly Limited applicability
Neckdown or Choker <i>Approx. cost: \$7,000 – \$10,000 each</i>	<ul style="list-style-type: none"> Reduces speed Minimal emergency response problems Constant traffic speeds Visually attractive 	<ul style="list-style-type: none"> More expensive Loss of parking Maintenance if landscaped
Chicane <i>Approx. cost: \$ 13,500 per pair</i>	<ul style="list-style-type: none"> Reduces speed Minimal emergency response problems Constant traffic speeds Visually attractive 	<ul style="list-style-type: none"> More expensive Loss of parking Maintenance if landscaped
Traffic Circle <i>Approx. cost: \$30,000 - \$40,000 each</i>	<ul style="list-style-type: none"> Reduces speed Improves left hand turn safety issues Visually attractive Constant traffic speeds 	<ul style="list-style-type: none"> Can restrict large vehicles if landscaped Can cause bicycle/motorist conflicts at intersection Can be confusing for some drivers Maintenance if landscaped Requires larger intersections to be effective
Combined Measures <i>Approx. cost: varies</i>	<ul style="list-style-type: none"> Design to specific needs 	<ul style="list-style-type: none"> May be confusing for some drivers
Realigned Intersection <i>Approx. cost: \$60,000 – \$80,000 each</i>	<ul style="list-style-type: none"> Reduces speed Improves left hand turn safety issues Visually attractive Constant traffic speeds 	<ul style="list-style-type: none"> Can restrict large vehicles if landscaped Can cause bicycle/motorist conflicts at intersection Can be confusing for some drivers Maintenance if landscaped

Section 3 – Route Modification

In contrast to traditional traffic calming methods which attempt to modify driver behavior, the traffic calming measures in this section attempt to alter the routes available to traffic flow. Route modification is considered a drastic measure where a severe traffic problem exists under the most egregious circumstances. Only after extensive review and approval from the city engineer can route modification be considered. The main goal of route modification is to redirect/reduce traffic volumes. Route modification is an attempt to change traffic flow on the street network while more conventional traffic calming measures attempt to alter driver behavior.

Half Street Closures

This measure is used to reduce traffic volumes by blocking travel in one direction on streets that usually permit travel in both directions. Half closures may be implemented at both intersections and midblock locations. These closures however, tend to be less effective than full closures due to the fact that motorists are more likely to violate the closures since it may only extend a short distance.

Full Street Closures

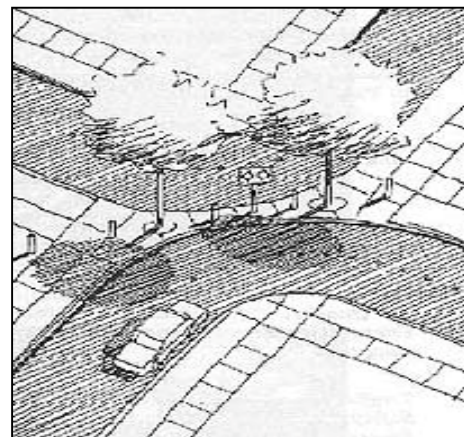
A full street closure completely closes the street to through traffic and is primarily used to eliminate excessive traffic beyond the capacity of the road design. If a full street closure is necessary, a variety of measures could be used, such as islands, walls, gates, or side-by-side bollards. A full street closure is not in the best interest of the community at large. Vineyard believes that connectivity between neighborhoods is essential to preserving the community atmosphere.

Some of the main concerns associated with street closures are an increase in emergency response time, a decrease in the capacity of the roadway, elimination of connectivity of roadways, and the diversion of traffic to other routes thus potentially not solving the problem but rather moving the problem to another street. Full or partial street closures are a drastic measure that would rarely be considered unless severe safety factors demand a closure.



Diagonal Diverters and Median Barriers

Diagonal diverters are placed across an intersection in order to block the through movements of traffic. Median barriers are positioned at an intersection to impede the through movement from cross street traffic. By impeding the through movements, these routes become less attractive, and therefore, the traffic volume on these roads is reduced. The main concern with these types of traffic calming measures is the potential for increased volume on parallel streets and the elimination of important connectivity.



Diagonal Diverter

SECTION 4 – TRAFFIC CALMING POLICY

Overview

Vineyard has developed a traffic calming implementation procedure that is designed to help city residents understand the process that may be initiated when a traffic complaint is made to the city.

An application for the assessment of traffic conditions is included at the end of this section. When filling out the application, a number of initial conditions must be met to help facilitate possible traffic calming implementation procedures. Traffic calming can impact the entire community, but more particularly the street on which the traffic calming is implemented. While it is the role of the city to consider traffic calming on a global scale as it may impact the entire community both immediately around the implemented measure and by other users of the affected street, no application will be considered without first obtaining local support. 75% of the area affected by the traffic calming problem must express support of a study for the city to study the issue and consider alternative traffic calming measures.

To facilitate communications, the application requires the designation of a citizen committee to speak on behalf of the affected neighborhood. It is the responsibility of the applicants to define the problem and the immediate households that might be affected by the implementation of traffic calming solutions. This may be just people living on the specified street but may also include side streets to the specified street. Upon review of the application, the city may require that the proposed area boundaries be altered based on the recommendation of staff and/or engineering.

Once an application has been properly filed with the city, the city engineer will review the application and designate the issue as requiring either a minor assessment or a major assessment. Minor traffic assessments indicate problems that can be solved through routine public works operations and do not warrant a significant expenditure of the city budget. These may include items such as striping and traffic control signs. Major assessments are traffic problems that merit an in-depth traffic study. These problems may warrant significant changes to neighborhood aesthetics and geometric design of the roadway and may call for a more significant expenditure of the city budget. Sometimes measures taken in response to a minor assessment may prove unproductive and warrant consideration as a major assessment. Every traffic situation has its own circumstances and will be evaluated on its own merits as determined by the city engineer and the city council. Traffic problems considered as minor will enter the rapid response process, and major assessment problems will follow the study-based procedure as outlined in the flow chart shown in the appendix.

Minor Assessments

Traffic problems assessed as minor will be addressed relatively quickly. The process may involve the neighborhood, city staff, and the city engineer. The engineer will perform an on-site inspection of the problem area, make an assessment of the situation, and present options for consideration by staff and the neighborhood representatives named on the application. It is the duty of the neighborhood committee representatives to inform their neighbors of options. A neighborhood meeting may be held with city staff and engineer at the request of the neighborhood committee at which options are explained and efforts made to obtain a consensus for proceeding with specific traffic calming measures. The city engineer and staff must approve any traffic calming plan.

Major Assessments

Traffic problems that are assessed as major will undergo a study based response. The process is lengthier than the more timely response to a minor assessment and will require a traffic study and presentation to the city council. The study is initiated by the city engineer performing an onsite inspection and gathering traffic data to determine the existing traffic conditions, including average daily traffic volumes, 85th percentile speed counts, geometric design of the roadway and external factors that impact traffic flow. Accident history of the study area will be considered as will the cost to implement any traffic calming devices. A

written assessment of options will be presented first to the city council for initial review and feedback. Subsequently, the plans as approved by the Council will be presented to the citizen committee identified in the application. The city engineer and city council must approve any traffic calming plan. Once the city and residents arrive at a solution to the traffic problem and a traffic calming plan has been prepared, the responsibility falls to the citizen committee to obtain support signatures from 75 % of the property owners in the affected area. Once that condition has been met, the city will schedule the traffic calming project into the work plan and budget.

Implementation

A Traffic Calming Procedure Summary is included at the end of this section outlining the traffic calming process from identification to implementation. Particular attention should be paid to the implementation process to ensure that each step is followed. This procedure promotes citizen involvement, which can translate into a greater acceptance by those individuals affected in the project vicinity. Through this process, the city council can also more objectively evaluate whether traffic calming should be applied to a particular location and can prioritize potential projects.

Traffic Calming Procedure Summary

1. Residents identify traffic problem
2. Residents set up a meeting with the City Engineer or designee to verify the boundary of the “Affected Neighborhood”
3. Residents fill out preliminary assessment application (included in this manual on page 11) and meet initial conditions, including:
 - a. Identify traffic problem and clearly define neighborhood area affected by problem.
 - b. Name a two to three person citizen committee to act as official spokespersons with the city.
 - c. Ensure 75% of residents living in the “Affected Neighborhood” sign application in support.
 - d. File with Vineyard Public Works Director
4. Application is reviewed by city staff
 - a. Staff will evaluate whether defined affected area is broadly enough defined.
 - b. Staff will validate that adequate signatures have been obtained to support the application.
 - c. Staff will complete their review within 30 days.
 - d. Staff will place temporary signs in the study area, informing the public that the area is being studied for the purpose of traffic calming.
5. City engineer does initial research and classifies traffic issue as a minor or major assessment
 - a. City engineer performs an onsite inspection of the affected area.
 - b. City engineer may gather initial data to assist in the determination of whether the area warrants a major or minor assessment.
6. If minor assessment –
 - a. Initial response may be to increase traffic enforcement for a period of time prior to considering implementation of other methods.
 - b. City engineer will provide a written assessment of options for the city staff to consider.
 - c. Upon evaluation by the city staff and involvement of the city council if staff deems it appropriate or necessary, the written assessment is revised.
 - d. The final assessment is then reviewed with the citizen committee identified in the original application.
 - e. This process can take 6-12 months to implement.
 - f. The city engineer and staff must approve any traffic calming plan.
7. If major classification –
 - a. City engineer will determine the appropriate scope of a traffic study to conduct and implement the study. The nature of the study will be discussed with and disclosed to the citizen committee listed on the application.

- b. Once data collection has ceased, law enforcement will implement increased patrols in the area in an attempt to deter the inappropriate driving behaviors.
 - c. Upon completion of the study, the city engineer will present the preliminary information and recommendations to the city council for consideration and evaluation.
 - d. The city engineer will take feedback from the city council and prepare a final report for presentation to the citizens committee.
 - e. The city council and staff will work with the citizens committee to properly present the information to the affected neighborhood and hold meetings to discuss the options in an effort to obtain consensus for a solution.
 - f. Ultimately, any approved solution must also be approved by 75% of the affected neighborhood prior to implementation.
- 8. Project will be prioritized by staff and city council and the city will schedule the traffic calming project into the work plan and budget.
- 9. City implements Traffic Calming Solution.

Vineyard | 125 South Main Street | 801.226.1929

Application for Preliminary Assessment of Traffic Conditions

Applicant Information

This application is designed to establish a process to evaluate the need for and implementation of traffic calming in Vineyard. It emphasizes the need to mitigate the effects of traffic in local neighborhoods and indicates that the traffic calming program will give priority to streets and neighborhoods where traffic impacts are most serious.

Committee Information

Designate a two or three person citizen committee to act as the official spokesperson for the neighborhood.

Committee Member #1 Name:	
Home Address:	
Phone Number:	
Email:	

Committee Member #2 Name:	
Home Address:	
Phone Number:	
Email:	

Committee Member #3 Name:	
Home Address:	
Phone Number:	
Email:	

Describe the specific location of the traffic problem

Street		From		To	
Street		From		To	
Street		From		To	

Identify the affected neighborhood area

[illegible]



Vineyard | 125 South Main Street | 801.226.1929

Application for Preliminary Assessment of Traffic Conditions

Briefly describe the type of traffic problem(s) and any observations made by residents			
Have you contacted law enforcement to request additional enforcement in the affected neighborhood?			
Yes		No	
Comment			
Have you reviewed Chapter 2? What traffic calming measures would you find effective?			
Priority #1			
Priority #2			
Priority #3			
Priority #4			
Describe any pedestrian related safety issues in the affected neighborhood. (ie lack of sidewalk, narrow street, etc)			

Vineyard | 125 South Main Street | 801.226.1929

Application for Preliminary Assessment of Traffic Conditions

[illegible]

Vineyard | 125 South Main Street | 801.226.1929

Application for Preliminary Assessment of Traffic Conditions

[illegible]

Vineyard | 125 South Main Street | 801.226.1929

Application for Preliminary Assessment of Traffic Conditions

[illegible]

Application for Preliminary Assessment of Traffic Conditions

Table 2-1 – Types of Traffic Calming Devices

Traffic Calming Measure	Pros	Cons
Rumble Strips <i>Approx. cost: \$1.50 per linear foot</i>	<ul style="list-style-type: none"> Slows vehicle traffic Effective alarm for motorists leaving the roadway Increases pedestrian safety 	<ul style="list-style-type: none"> Noise pollution is intrusive in neighborhoods Increases roadway maintenance cost
Striping <i>Approx. cost: \$5 per linear foot</i>	<ul style="list-style-type: none"> Minimal emergency response problems Gives the appearance of space restriction resulting in reduction of speed Less Expensive 	<ul style="list-style-type: none"> Speed reduction is optional Only effective on wider local roads Can make local road look like a minor collector road
Curb Wall <i>Approx. cost: \$50 per linear foot</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles when not designed correctly Limited applicability
Center Island <i>Approx. cost: \$ 175 per linear foot</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles
Electronic Speed Monitors <i>Approx. cost: \$2,500</i>	<ul style="list-style-type: none"> Slows vehicle traffic Efficient use of police time Cost effective 	<ul style="list-style-type: none"> Effectiveness may decrease with time Speed reduction is optional
Speed Table / Speed Humps or Bumps <i>Approx. cost: \$10,000 / \$4,500 each</i>	<ul style="list-style-type: none"> Reduces speed No parking removal No bicycle restrictions May facilitate pedestrian crossings 	<ul style="list-style-type: none"> Can impede snow plowing Excessive acceleration and deceleration Air and noise pollution Slows emergency vehicles Gradual ramping may not be sufficient as a speed deterrent
Island Diverter <i>Approx. cost: \$ 4,500 each</i>	<ul style="list-style-type: none"> Forces vehicles to remain in lane during turns Slows turning vehicles Provides pedestrians with refuge when crossing 	<ul style="list-style-type: none"> Can impede snow plowing Can impede truck traffic and emergency vehicles when not designed correctly Limited applicability
Neckdown or Choker <i>Approx. cost: \$7,000 – \$10,000 each</i>	<ul style="list-style-type: none"> Reduces speed Minimal emergency response problems Constant traffic speeds Visually attractive 	<ul style="list-style-type: none"> More expensive Loss of parking Maintenance if landscaped
Chicane <i>Approx. cost: \$ 13,500 per pair</i>	<ul style="list-style-type: none"> Reduces speed Minimal emergency response problems Constant traffic speeds Visually attractive 	<ul style="list-style-type: none"> More expensive Loss of parking Maintenance if landscaped
Traffic Circle <i>Approx. cost: \$25000 - \$30,000 each</i>	<ul style="list-style-type: none"> Reduces speed Improves left hand turn safety issues Visually attractive Constant traffic speeds 	<ul style="list-style-type: none"> Can restrict large vehicles if landscaped Can cause bicycle/motorist conflicts at intersection Can be confusing for some drivers Maintenance if landscaped Requires larger intersections to be effective

Application for Preliminary Assessment of Traffic Conditions

Combined Measures <i>Approx. cost: varies</i>	<ul style="list-style-type: none"> Design to specific needs 	<ul style="list-style-type: none"> May be confusing for some drivers
Realigned Intersection <i>Approx. cost: \$45,000 – \$60,000 each</i>	<ul style="list-style-type: none"> Reduces speed Improves left hand turn safety issues Visually attractive Constant traffic speeds 	<ul style="list-style-type: none"> Can restrict large vehicles if landscaped Can cause bicycle/motorist conflicts at intersection Can be confusing for some drivers Maintenance if landscaped